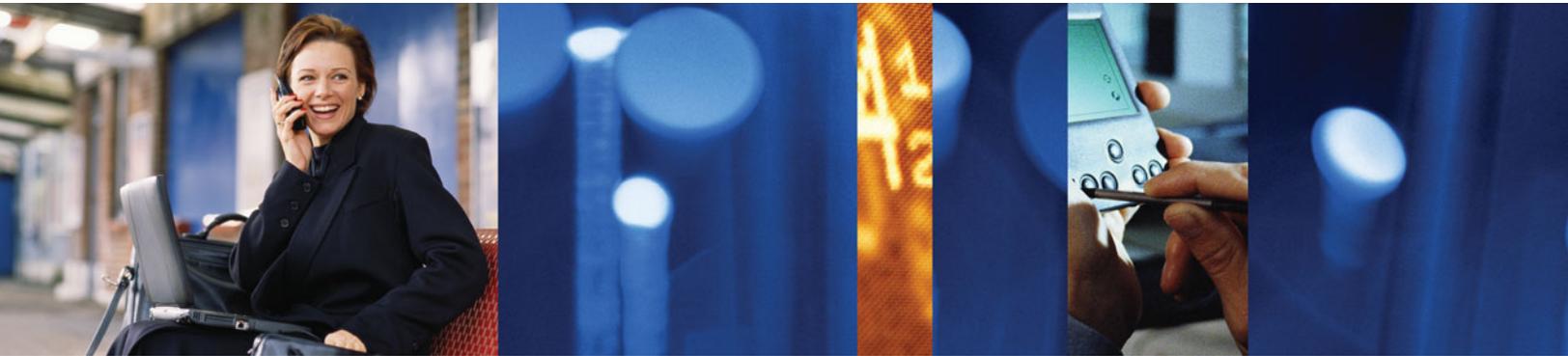# LambdaUnite® MultiService Switch (MSS)

Grow your network and make it more flexible.
Offers central office consolidation savings and
a graceful evolution to data services.

Benefits

- Cost-effectively addresses a variety of network applications

- Converges traditional circuit and advanced packet services

- Provides central office consolidation opportunities

- Readily integrates with your embedded infrastructure

- Meets the needs of your growing network

Lucent Technologies
Bell Labs Innovations

Cost-effectively addresses a variety of network applications

Lucent Technologies LambdaUnite® MultiService Switch (MSS) is a next-generation multiservice optical switch that supports a variety of applications including ADM, terminal multiplexer, multi-ring hub, and broadband cross-connect. This multi-functional platform helps lower costs by reducing equipment, floor space, and power requirements while improving operational efficiency and network reliability. The system supports both SDH and SONET at rates including 10G and 40G, making it suitable for global network deployments. Its common hardware, software, and industry standards compliance helps position you for rapid feature introduction and increased revenue opportunities, for small to large office applications, in backbone and metro networks.

In the metro network, the LambdaUnite® MSS system serves as a metro hub terminal efficiently aggregating multiple 2.5G and 10G rings to help eliminate stacked ADMs. An optional passive WDM unit can be integrated for fiber exhaust situations. In backbone networks, efficient use of existing fiber is critical to

Two complete LambdaUnite® MSS systems, with a capacity of 640G, fit into one rack.

satisfying bandwidth demands. The LambdaUnite® MSS efficiently aggregates and grooms traffic to help maximize bandwidth utilization and lower per bit cost. Its optional, fully-transparent OC-48/STM-16 interface card can help carriers to cost-effectively address wavelength service delivery via the existing SONET/SDH network infrastructure.
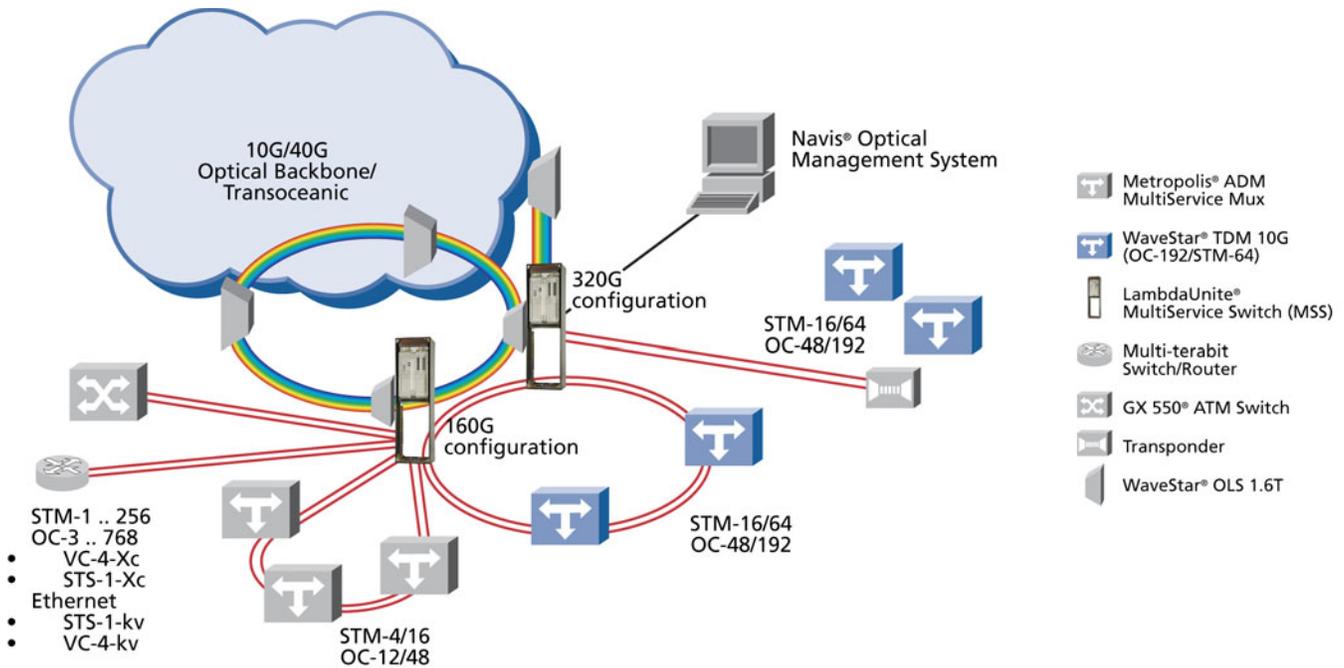
When deployed with Lucent DWDM systems, you can achieve significant equipment savings by using express optics, since expensive OTUs on the DWDM equipment are eliminated. The LambdaUnite® MultiService Switch is well suited for transoceanic applications. The transoceanic protocol mechanism supported by the system helps to effectively protect the groomed and consolidated traffic for your valuable undersea fiber route.

Supports traditional circuit and advanced data services

The LambdaUnite® MultiService Switch leverages your existing investments in SONET/SDH networks to support today's traditional revenue generating services while enabling new Ethernet services. Combining SONET/SDH resilience and quality of service with the flexibility and ubiquity of Ethernet helps this system to deliver carrier grade Ethernet services in point to point and multipoint configurations. Lucent Technologies TransLAN® Card option contains efficient and flexible bandwidth assignment capabilities, including virtual concatenation and LCAS, enable voice and data transport, and help avoid separate overlay networks that are costly to build and manage.

Provides central office consolidation opportunities

The LambdaUnite® MSS system performs as a metro hub terminal efficiently aggregating multiple high-capacity rings in your central office. This can result in significant cost savings from the elimination of stacked add/drop multiplexers at metro hubs. The system's centralized non-blocking switch is available in 160G, 320G and 640G switching capacity options in a single shelf, to help reduce floor space and operations costs. High fiber utilization is accomplished through granular STS-1/VC-4 as well as VT-1.5/VC-12 grooming capabilities, a wide range of service interfaces, and advanced data transport capabilities. Occupying very little floor space because of its high density, two complete systems fit in one rack, providing up to 1.2Tbps per bay.

2

10G/40G
Optical Backbone/
Transoceanic

Navis® Optical
Management System

320G
configuration

STM-16/64
OC-48/192

Metropolis® ADM
MultiService Mux

WaveStar® TDM 10G
(OC-192/STM-64)

LambdaUnite®
MultiService Switch (MSS)

Multi-terabit
Switch/Router

GX 550® ATM Switch

Transponder

WaveStar® OLS 1.6T

160G
configuration

STM-1 .. 256
OC-3 .. 768
- VC-4-Xc
- STS-1-Xc
Ethernet
- STS-1-kv
- VC-4-kv

STM-16/64
OC-48/192

STM-4/16
OC-12/48

Flexibility for your network: the LambdaUnite® MultiService Switch supports various types of traffic and protection schemes — all in one network element.

Readily integrates with your embedded infrastructure

The LambdaUnite® MSS is a global, standard compliant product that leverages traditional SDH and SONET networks. Extensive multi-vendor interworking capabilities enable quick deployments while leveraging your existing investment. Sharing a common management system with other Lucent optical products, facilitates support staff knowledge across multiple platforms. Navis® Optical Management Solution integrated management helps support a wide range of applications and services to keep your network running cost-effectively. Designed with scalability and ease of maintenance in mind, LambdaUnite® MSS can help you affordably meet the market's growing demand for bandwidth.

The system supports a variety of industry standard protection schemes including:

- MS-Spring/BLSR
- SNCP/UPSR
- Transoceanic Protocol
- DNI/DRI
- 1+1 MSP/linear APS
- Mesh based restoration

Meets the needs of your growing network

The LambdaUnite® MSS offers a full set of interface rates, reaches, and colored optics to help provide your network with greater flexibility and efficiency. By supporting both rings and mesh simultaneously, it allows you to evolve network architectures when you're ready. The system architecture is based on a full non-blocking duplicated switch matrix. Each of the 32 I/O slots can be filled with a variety of cards ranging from 45Mbps up to 40Gbps thus enabling a wide range of configurations. Each optical circuit pack, supports expansion port modules that may be inserted and provisioned in-service. This means you only pay for the port capacity you need, when you need it. The LambdaUnite® MultiService Switch offers dedicated data interfaces such as Gigabit Ethernet (SX and LX) and 10 Gigabit Ethernet (WAN PHI). From small to large offices, this highly flexible architecture enables you to configure the system to meet your needs.

Designed to interwork with a variety of standard-compliant SONET/SDH products, LambdaUnite® MultiService Switch can be a part of your complete solution. It offers seamless, end-to-end network management, and reduces the need for manual intervention while managing your network. This next-generation multiservice optical switch offers you a complete central office solution in a single platform.

3

Summary of features and benefits

Flexibility, Scalability and Capacity

• Innovative highly flexible any-card-in-any-slot architecture

• Expansion port modules that may be inserted and provisioned in-service

• Ultra-compact high capacity shelf

• Centralized non-blocking switch, including 160G, 320G and 640G capacity options

• 15G low order grooming capabilities

• In-service capacity upgrade

• Bandwidth optimized sub-lambda grooming

Cost-effective multiservice support

• Global product design

• Interface range from DS-3 to OC-768/STM-256

• OLS direct and passive DWDM optics

• Full interoperability with the Lucent SONET/SDH product portfolio

High availability—ring, mesh, hybrid topologies

• Simultaneous support of ring and mesh network topologies

• Multiple class of service (CoS) levels

Seamless integration into the Navis® Optical Management Solution

• End-to-end point and click provisioning over the Lucent portfolio

To learn more about our comprehensive portfolio, please contact your Lucent Technologies Sales Representative or call 1-888-426-2252.

Visit our web site at http://www.lucent.com.

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